

Sources that comprise the load at A72

October 2012 Synoptic Sampling

Dissolved (filtered) concentration used for Mn, SO₄, and Zn (these constituents are transported conservatively throughout the system and the dissolved concentration is the best measure of their load)
 Total (unfiltered) concentration used for remaining constituents (these constituents are reactive, and the total concentrations are the best measure of their load)

Loading analysis based on flow profile of 29 May 2014

<u>AI</u> <u>dist</u>	<u>description</u>	<u>% load</u>	<u>cumulative</u> <u>%</u>	<u>As</u> <u>dist</u>	<u>description</u>	<u>% load</u>	<u>cumulative</u> <u>%</u>
17805	Mineral Creek	44.0%	44.0%	6552	Prospect Gulch & Iron Bog	81.7%	81.7%
6552	Prospect Gulch & Iron Bog	22.0%	65.9%	11420	Topeka Gulch & May Day	8.6%	90.2%
5666	Dry Gulch	5.7%	71.6%	10530		5.4%	95.6%
7222	Georgia/Tiger Gulches	3.4%	75.0%	16024	Cement Cr Gage to Mouth	2.4%	98.0%
12392		3.2%	78.2%	9842	Porc Gulch & Adit	1.2%	99.3%
13443		3.1%	81.3%	14716	Soda Gulch	0.7%	100.0%
14716	Soda Gulch	2.9%	84.2%				
3376	N. Fork Cement Creek / Gold King	2.8%	87.0%				
4056	S. Fork Cement Creek	2.3%	89.4%				
11420	Topeka Gulch & May Day	2.3%	91.6%				
10087	Ohio Gulch	2.1%	93.7%				
3009	R&B	2.0%	95.7%				
16024	Cement Cr Gage to Mouth	1.4%	97.0%				
3564	American Tunnel	1.1%	98.2%				
3977	Gladstone seep	0.8%	98.9%				
1380	Mogul	0.3%	99.3%				
8546		0.2%	99.5%				
371	Queen Anne	0.2%	99.7%				
1407	Fen Drainage near Mogul	0.2%	99.8%				
2744		0.1%	99.9%				
1827		0.0%	100.0%				
557		0.0%	100.0%				
336		0.0%	100.0%				
0		0.0%	100.0%				

load table

Cd			cumulative	Cu			cumulative
dist	description	% load	%	dist	description	% load	%
16720	Upper Animas	24.3%	24.3%	3376	N. Fork Cement Creek / Gold King	40.7%	40.7%
17805	Mineral Creek	15.5%	39.9%	16720	Upper Animas	11.6%	52.3%
3009	R&B	11.4%	51.3%	17805	Mineral Creek	9.2%	61.5%
10087	Ohio Gulch	6.8%	58.0%	3977	Gladstone seep	5.7%	67.2%
3376	N. Fork Cement Creek / Gold King	6.5%	64.6%	4056	S. Fork Cement Creek	5.5%	72.7%
18637	Upstream of A72	5.3%	69.8%	6552	Prospect Gulch & Iron Bog	5.1%	77.8%
6552	Prospect Gulch & Iron Bog	4.7%	74.5%	7222	Georgia/Tiger Gulches	4.7%	82.4%
4056	S. Fork Cement Creek	3.3%	77.8%	10087	Ohio Gulch	4.4%	86.8%
3564	American Tunnel	3.0%	80.8%	1380	Mogul	3.1%	89.9%
3977	Gladstone seep	2.9%	83.7%	11420	Topeka Gulch & May Day	2.8%	92.8%
14716	Soda Gulch	2.8%	86.5%	18637	Upstream of A72	1.9%	94.6%
11420	Topeka Gulch & May Day	2.7%	89.3%	371	Queen Anne	1.3%	95.9%
1380	Mogul	2.3%	91.5%	3564	American Tunnel	1.1%	96.9%
13443		1.9%	93.5%	1407	Fen Drainage near Mogul	1.0%	98.0%
371	Queen Anne	1.7%	95.2%	1827		0.4%	98.4%
8546		1.2%	96.3%	336		0.4%	98.8%
1407	Fen Drainage near Mogul	1.0%	97.3%	1192		0.3%	99.1%
7222	Georgia/Tiger Gulches	0.7%	98.0%	2744		0.3%	99.4%
2744		0.6%	98.6%	3009	R&B	0.2%	99.6%
5666	Dry Gulch	0.5%	99.1%	14716	Soda Gulch	0.2%	99.8%
1827		0.4%	99.4%	0		0.1%	99.9%
336		0.3%	99.8%	557		0.1%	100.0%
557		0.2%	100.0%				
0		0.0%	100.0%				

Fe				Mn			
<u>dist</u>	<u>description</u>	<u>% load</u>	<u>cumulative %</u>	<u>dist</u>	<u>description</u>	<u>% load</u>	<u>cumulative %</u>
6552	Prospect Gulch & Iron Bog	35.5%	35.5%	16720	Upper Animas	26.2%	26.2%
17805	Mineral Creek	28.8%	64.2%	3009	R&B	19.2%	45.4%
3009	R&B	14.2%	78.5%	3564	American Tunnel	10.4%	55.8%
12392		4.9%	83.4%	17805	Mineral Creek	8.2%	64.0%
5666	Dry Gulch	4.3%	87.7%	4056	S. Fork Cement Creek	5.3%	69.3%
13443		3.2%	90.9%	6552	Prospect Gulch & Iron Bog	5.2%	74.5%
3977	Gladstone seep	3.1%	94.0%	3376	N. Fork Cement Creek / Gold King	3.6%	78.1%
3564	American Tunnel	2.2%	96.3%	14716	Soda Gulch	3.5%	81.6%
4056	S. Fork Cement Creek	1.7%	98.0%	16024	Cement Cr Gage to Mouth	3.1%	84.7%
3376	N. Fork Cement Creek / Gold King	1.2%	99.2%	10087	Ohio Gulch	2.7%	87.4%
14716	Soda Gulch	0.7%	99.9%	7222	Georgia/Tiger Gulches	2.7%	90.1%
16720	Upper Animas	0.1%	100.0%	11420	Topeka Gulch & May Day	2.1%	92.2%
				3977	Gladstone seep	2.1%	94.3%
				5666	Dry Gulch	1.4%	95.6%
				1380	Mogul	1.3%	96.9%
				9842		0.9%	97.7%
				8546		0.8%	98.6%
				1407	Fen Drainage near Mogul	0.5%	99.0%
				12392		0.3%	99.4%
				13443		0.2%	99.6%
				371	Queen Anne	0.2%	99.8%
				1827		0.1%	99.9%
				2744		0.1%	100.0%
				557		0.0%	100.0%

<u>Ni</u> <u>dist</u>	<u>description</u>	<u>% load</u>	<u>cumulative</u> <u>%</u>	<u>Pb</u> <u>dist</u>
6552	Prospect Gulch & Iron Bog	17.5%	17.5%	
17805	Mineral Creek	15.2%	32.8%	
18637	Upstream of A72	13.4%	46.2%	
16024	Cement Cr Gage to Mouth	12.5%	58.7%	
13443		9.1%	67.8%	
10087	Ohio Gulch	6.0%	73.8%	
3009	R&B	5.7%	79.5%	
3564	American Tunnel	3.4%	82.9%	
12392		3.1%	86.0%	
9842	Porc Gulch & Adit	3.0%	89.1%	
7222	Georgia/Tiger Gulches	3.0%	92.0%	
3977	Gladstone seep	2.5%	94.5%	
5666	Dry Gulch	2.4%	96.9%	
4056	S. Fork Cement Creek	1.3%	98.2%	
3376	N. Fork Cement Creek / Gold King	0.6%	98.8%	
371	Queen Anne	0.4%	99.2%	
2744		0.3%	99.4%	
1380	Mogul	0.2%	99.7%	
1407	Fen Drainage near Mogul	0.1%	99.8%	
1827		0.1%	99.9%	
336		0.1%	100.0%	
557		0.0%	100.0%	
0		0.0%	100.0%	

<u>Pb</u> <u>dist</u>	<u>description</u>	<u>% load</u>	<u>cumulative</u> <u>%</u>
5666	Dry Gulch	16.3%	16.3%
17805	Mineral Creek	16.1%	32.4%
16720	Upper Animas	15.8%	48.2%
3009	R&B	13.4%	61.6%
14716	Soda Gulch	9.5%	71.2%
18637	Upstream of A72	6.0%	77.2%
4056	S. Fork Cement Creek	5.5%	82.7%
7222	Georgia/Tiger Gulches	3.7%	86.4%
3977	Gladstone seep	3.3%	89.8%
10087	Ohio Gulch	3.2%	92.9%
3376	N. Fork Cement Creek / Gold King	2.6%	95.5%
12392		1.8%	97.3%
1380	Mogul	1.2%	98.5%
16024	Cement Cr Gage to Mouth	0.5%	99.0%
1407	Fen Drainage near Mogul	0.3%	99.4%
557		0.3%	99.6%
371	Queen Anne	0.1%	99.7%
1192		0.1%	99.8%
11420	Topeka Gulch & May Day	0.1%	99.9%
1827		0.1%	100.0%
0		0.0%	100.0%
336		0.0%	100.0%

load table

SO4 dist	<u>description</u>	<u>% load</u>	<u>cumulative %</u>	<u>Zn dist</u>
17805	Mineral Creek	35.1%	35.1%	
16720	Upper Animas	14.7%	49.8%	
6552	Prospect Gulch & Iron Bog	9.5%	59.3%	
4056	S. Fork Cement Creek	5.8%	65.1%	
3009	R&B	5.4%	70.5%	
7222	Georgia/Tiger Gulches	3.6%	74.1%	
11420	Topeka Gulch & May Day	3.2%	77.4%	
3564	American Tunnel	2.6%	79.9%	
14716	Soda Gulch	2.4%	82.3%	
10530		2.3%	84.7%	
5666	Dry Gulch	2.1%	86.8%	
8546		2.1%	88.9%	
13443		1.8%	90.7%	
12392		1.8%	92.5%	
10087	Ohio Gulch	1.7%	94.1%	
3376	N. Fork Cement Creek / Gold King	1.6%	95.8%	
18637	Upstream of A72	1.4%	97.2%	
9842		0.8%	98.0%	
3977	Gladstone seep	0.4%	98.4%	
16024	Cement Cr Gage to Mouth	0.4%	98.8%	
1380	Mogul	0.3%	99.0%	
1827		0.3%	99.3%	
371	Queen Anne	0.2%	99.5%	
2744		0.2%	99.8%	
1407	Fen Drainage near Mogul	0.1%	99.9%	
0		0.0%	99.9%	
336		0.0%	100.0%	
557		0.0%	100.0%	

<u>description</u>	<u>% load</u>	<u>cumulative %</u>
3009	R&B	18.8%
16720	Upper Animas	16.2%
3564	American Tunnel	10.2%
6552	Prospect Gulch & Iron Bog	7.6%
17805	Mineral Creek	6.1%
3376	N. Fork Cement Creek / Gold King	5.9%
4056	S. Fork Cement Creek	4.5%
14716	Soda Gulch	4.4%
7222	Georgia/Tiger Gulches	3.8%
16024	Cement Cr Gage to Mouth	3.4%
1380	Mogul	3.4%
10087	Ohio Gulch	2.8%
11420	Topeka Gulch & May Day	2.4%
3977	Gladstone seep	2.3%
5666	Dry Gulch	1.5%
18637	Upstream of A72	1.5%
1407	Fen Drainage near Mogul	1.4%
17360	Idaho Gulch	1.3%
371	Queen Anne	1.1%
2744		0.4%
9842	Porc Gulch & Adit	0.4%
1827		0.3%
336		0.3%
557		0.1%
0		0.0%

and the dissolved concentrations are the best measure of constituent loading)
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